

*Color screen*  
**MOBILE RADIO**

**12/24V**

**INSTRUCTION  
MANUAL**



**Thank you for purchasing this mobile radio. It is unique for its compact body, powerful output and frequency range design. It's also designed with new and personalized operation menu to give you easy-to-use and exceptional operation experience. We believe its mini size and cost-effective price will well meet your demand.**

**Before operation and to obtain the best performance, we recommend you to read this user manual carefully to become familiar with the features and uses.**

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## ■ ATTENTION!

Please observe the following precautions to prevent fire, personal injury, damage to the radio:

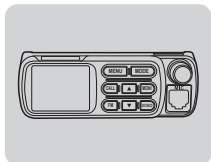
- Don't use this machine when driving, so dangerous.
- This radio is designed to use 13.8V or 24V DC voltage.
- Please do not place the machine in the dust, moisture or water splashing.
- If there's any electromagnetic interference, please keep the mobile radio away from the sources such as TV set, engine generator etc.
- Do not expose the mobile radio to long periods of direct sunlight, for example on the dashboard of a vehicle or close to heating appliances.
- If the mobile radio generate any smoke or strange smell, please turn off the power supply immediately and make sure all is safe, then you can send the unit to the nearest after-sale center for inspection or repairment.
- Do not keep transmitting with high power output for too long time, which may lead to overheating and cause auto power off or failure.

## ■ PRODUCT INSPECTION

Welcome to use our mobile radio, before operation, it is recommended that you:

- Please check the package is in good condition without any damage.
- Please unpack the package box carefully and check that all items are included.
- If you find any items are missing or have been damaged during shipment, please contact your dealer immediately.

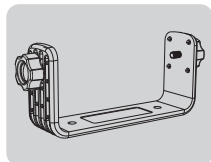
### Standard accessories



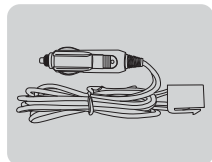
Mobile Radio



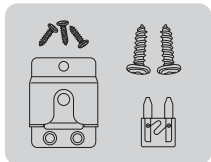
MIC with DTMF Keypad



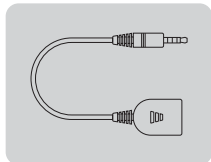
Mounting Bracket



Cigar-plug Power Cable

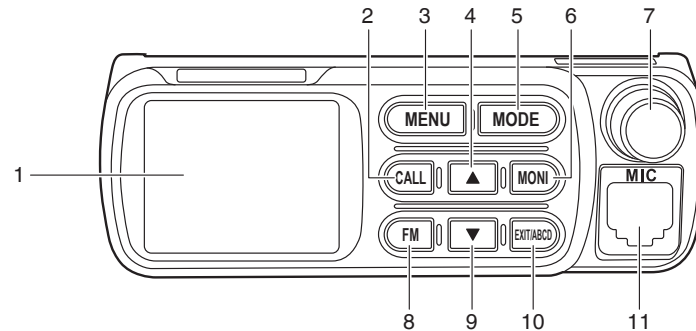


Screw set & Fuse

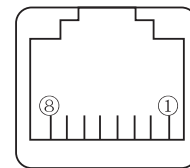


K-interface Earpiece Adaptor (optional)

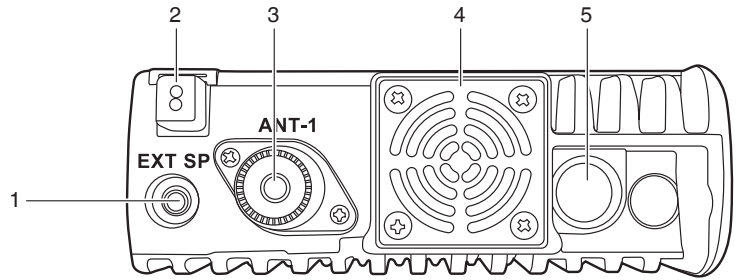
## ■ PANEL DESCRIPTION



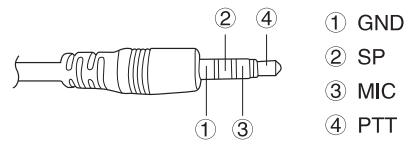
- |                   |   |
|-------------------|---|
| 1 Display screen  | 7 Power ON/OFF, Volume knob               |
| 2 CALL key        | 8 FM Radio Key                            |
| 3 MENU key        | 9 Down key                                |
| 4 UP Key          | 10 Exit/ABCD band switch/ Emergency alarm |
| 5 Mode switch key | 11 MIC connector                          |
| 6 Monitor key     |   |



- |                 |
|-----------------|
| ① Data Input    |
| ② Null          |
| ③ MIC           |
| ④ MIC Ground    |
| ⑤ PTT.          |
| ⑥ GND           |
| ⑦ +8V DC Output |
| ⑧ Null          |



- 1 PTT/Microphone/GND  
(Can be connected to headphones or helmet)
- 2 12/24V DC power supply
- 3 Antenna connector
- 4 Cooling Fan
- 5 Data interface



### Hotkey function guide

Power/Volume: Press the key to turn on the radio. Hold on the key for seconds to turn off the radio. Switch the knob to adjust the volume.

- [ **CALL** ]: In standby mode, press to send caller ID at selected signaling mode, in transmit mode, press to send repeat activate signaling.
- [ **MONI** ]: Press to turn on or turn off the squelch.
- [ **MODE** ]: Press to select radio mode. Hold on for seconds to select power output at this mode.
- [ **EXIT/ABCD** ]: Press to exit function menu setting. In standby mode, press to select A, B, C, D frequency.
- [ **FM** ]: Press to enter and exit FM radio function.
- [ **MENU** ]: Press to enter menu function setting mode.

### Frequency Range Setting

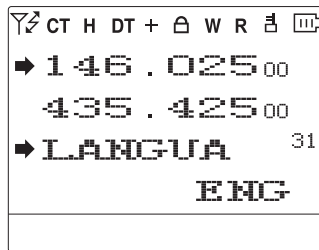
Turn on the radio when show welcome words, hold on the MENU Key, radio will shows PASSWORD, Enter the Password to setting the frequency range and transmit frequency setting.

### Read and Write the Password Function

Choose a password, reading, and writing (set password, please remember, once set, after software to read and write all need password to work)

## LCD Description

Top place show spec at present working frequency/channel mode.



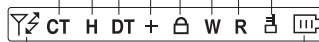
Addition transmit frequency under frequency mode.

Present channel have available DTMF signaling.

Present channel at High output power mode.

Present channel have set CTCSS.

Shows the radio if at correct working.



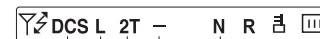
Present channel scrambler available.

Present channel work at wide band mode.

Shows present transmit and receive frequency reversal.

Shows keypad is locked.

Shows battery capability.



Present channel have set DCS.

Present channel at Low output power mode.

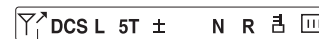
Present channel signaling is 2TONE signaling.

Present channel signaling is 5TONE signaling.

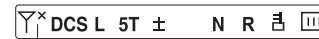
Present channel work at narrow band mode.

Reductive transmit frequency at frequency mode.

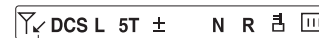
Show present channel transmit and receive at same frequency.



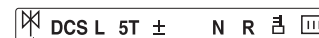
Radio only can transmit, can't work at receive.



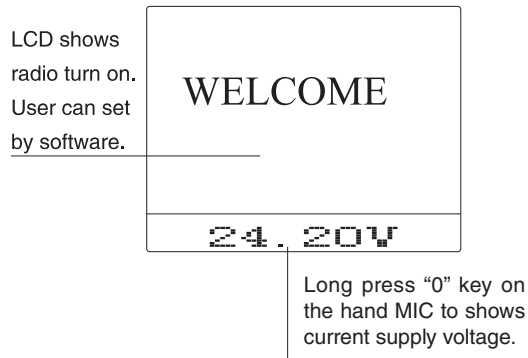
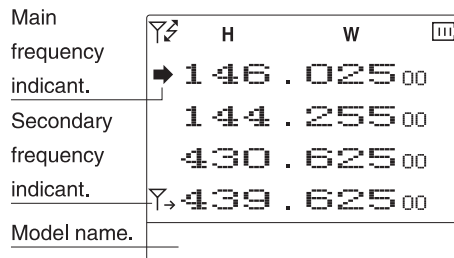
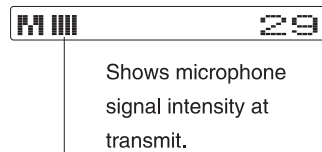
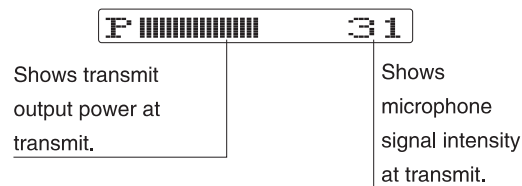
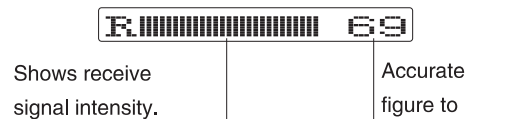
Radio transmit and receive both forbidden.



Radio only can receive, can't work at transmit.



Shows at repeater mode.



## ■ SAME TX RX FREQUENCY, DIFFERENT TX RX FREQUENCY CHANNEL MEMORY

### Same TX RX frequency channel memory

- ① Use keypad write require frequency, for example 146.6250, press microphone **[MENU]** key ( or Progress/confirm key)
- ② Menu select 44.
- ③ Press microphone **[MENU]** key ( or Progress/confirm key) to select channel 001. Press **[MENU]** key (or Progress/confirm key) again to memory it to CH-001.

If before setting already shows CH-001 (not 001) means channel 1 is memorized.

Delete this memorized channel: select menu 45, press **[MENU]** key (or Progress/confirm key), select channel CH-001 press **[MENU]** key (or Progress/confirm key) again to delete, LCD shows

001 is empty channel.

- ④ Press **[MENU]** key (or Progress/confirm key) to memory it, LCD shows CH-001.
- ⑤ Press **[MENU]** key (or Progress/confirm key) back to main menu, select 27, A- channel setting the frequency, channel number, channel name, press **[MENU]** key (or Progress/confirm key) to confirm.
- ⑥ Same use menu 28, 29, 30 to setting the B, C, D frequency.
- ⑦ Hold on the **[MENU]** key (or Progress/confirm key) for seconds to exit. Or **[EXIT/AB]** key.
- ⑧ At frequency mode, press **[MENU]** key enter or exit the channel.

### Different TX RX frequency channel (CTCSS/DCS) memory (connect repeater)

- ① Press **[MENU]** key (or Progress/confirm key), select menu 10.

② Press **[MENU]** key (or Progress/confirm key), setting the receive DCS figure.

③ Press **[MENU]** key (or Progress/confirm key) to confirm.

select menu 11 to setting the receive CTCSS

④ Press **[MENU]** key (or Progress/confirm key), setting the receive CTCSS figure.

⑤ Press **[MENU]** key (or Progress/confirm key) to confirm.

Select menu 12 setting transmit DCS.

⑥ Press **[MENU]** key (or Progress/confirm key), to setting the transmit DCS figure.

⑦ Press **[MENU]** key (or Progress/confirm key) to confirm.

⑧ Select menu 13. Press **[MENU]** key (or Progress/confirm key) to select transmit CTCSS figure.

⑨ Press **[MENU]** key (or Progress/confirm key) to confirm.

⑩ Press **[EXIT]** to exit.

If no need DCS/CTCSS then no then these steps.

Use microphone keypad press require frequency, for example 438.6250.

① Press microphone **[MENU]** key (or Progress/confirm key) enter menu.

② Menu select 44.

③ Press microphone **[MENU]** key (or Progress/confirm key) to select channel 002. Press **[MENU]** key (or Progress/confirm key) again to memory it to CH-002. If before setting already shows CH-002 (not 002) means channel 2 is memorized.

Delete this memorized channel: select menu 45, press **[MENU]** key (or Progress/confirm key), select channel CH-002 press **[MENU]** key(or Progress/confirm key) again to delete, LCD shows 002 is empty channel.

④ Press **[MENU]** key (or Progress/confirm key) to memory it, LCD shows CH-002.

⑤ Press **[EXIT/AB]** key to exit.

Microphone press frequency for example 430.6250.

⑥ Press microphone **[MENU]** key (or Progress/confirm key) select menu 44.

⑦ Press **[MENU]** key (or Progress/confirm key) select channel CH-002.

⑧ Press **[MENU]** key (or Progress/confirm key) memory this frequency to transmit channel. Back to main menu, select 27, A-channel setting the frequency, channel number, channel name, press **[MENU]** key (or Progress/confirm key) to confirm.

⑨ Same use menu 28, 29, 30 to setting the B, C, D frequency.

⑩ Hold on the **[MENU]** key (or Progress/confirm key) for seconds to exit. Or **[EXIT/AB]** key. At frequency mode, hold on **[MENU]** key for seconds to enter or exit channel.



## ■ MENU FUNCTION SETTING OPERATION

### Operation For Manual Channel Memory And Delete

#### Channel memory:

1. Directly input frequency by keypad under frequency mode. Example: 435.125 MHz input 4,3,5,1,2,5.
2. Setting CTDCS frequency (manual page 10, 11). Setting transmit CTDCS frequency (manual page 12,13). For example: receive CTDCS 67.0HZ, transmit CTDCS 67.0HZ. Press **[MENU]** Key + **[1]** Key + **[1]** Key + **[MENU]** + **[UP]** Key. Select 67.0HZ + **[MENU]** Key.  
Transmit CTDCS 67.0HZ. Press **[MENU]** Key + **[1]** Key + **[3]** Key + **[MENU]** + **[UP]** Key. Select 67.0HZ + **[MENU]** Key. Press **[MENU]** Key again to save and exit. (If no need CTDCS all select OFF)
- 3 Select manual 44 to memory the channel, press **[MENU]** Key + **[4]** Key + **[4]** Key + **[MENU]** Key +

**[UP]** (DOWN) select channel + **[MENU]** Key to memory the channel information.

#### Delete channel:

Select menu 45. Press **[MENU]** + **[4]** + **[5]** + **[MENU]**+ **[UP]** (DOWN) select the channel number + **[MENU]** Key to delete.

#### Memory FM Radio Channel

Use PC software to edit FM radio channel. (Software FM option). Under transmit send DTMF code by microphone keypad. Press microphone **[\*]** Key to search FM channel under FM mode.

#### Keypad Lock-out

Hold the microphone **[#]** key for 2 seconds at standby to turn on/off the keypad lock-out function.

#### Transmit Transit Signal

Select transit signal frequency (out radio have 4 kind

transit signal frequency). Press **[MENU]** + **[5]** + **[0]** + **[MENU]** + **[UP]**(DOWN) select transit signal frequency + **[MENU]** key to save setting. Hold **[PTT]** and press **[CALL]** Key to transmit setting transit signal.

#### PTT ID Setting

Use PC software to edit PTT-ID code.

1. Manual 18, select signal. Press **[MENU]** + **[1]** + **[8]** + **[MENU]** + **[UP]**(DOWN) select signal + **[MENU]** save the setting.
2. Manual 20, setting PTT launch. Press **[MENU]** + **[2]** + **[0]** + **[MENU]** + **[UP]**(DOWN) select signal + **[MENU]** save the setting.
3. Manual 21, setting PTT transmit delay time. Press **[MENU]** + **[2]** + **[1]** + **[MENU]** + **[UP]** (DOWN) select delay time + **[MENU]** save the setting.
4. Press **[PTT]** to send setting ID code.

## Optional Signalling Setup

### DTMF Signalling Setup

This radio is capable of DTMF encode/decode feature, users can program the desired DTMF code by PC program.

### DTMF Signalling

If the radio is pre-programmed with DTMF signalling code, when it receive a matched code it will alert and display the corresponding code, also radios can communicate with each other in valid time. (ID code is programmable by PC software)

### Patrol Function

When receiving matched DTMF signalling which is same as pre-programmed patrol code, the radio will emit self ID code which will display on master control radio.

This function is able to select to be or not to be contr-

olled by master ID code, this function is not controlled by RX signalling. (Patrol code is programmable by PC software)

### Monitor Function

When receiving matched DTMF signalling which is same as pre-programmed monitor code, the radio will transmit to monitor the surrounding voice. This function is able to select to be or not to be controlled by master ID code, this function is not controlled by RX signalling. (Monitor code is programmable by PC software)

### Remote Stun

When receiving matched DTMF signalling which is same as pre-programmed remote stun code, transmitting is disabled, it will also alert on the display mode. The radio will restore to work normally only after remote revived. This function is able to select to be or not to be controlled by master ID code, this function is not controlled by RX signalling. (Remote stun code is

programmable by PC software)

### Remote Kill

When receiving matched DTMF signalling which is same as pre-programmed remote kill code, transmitting, receiving and all activities will be disabled, it will also alert on the display mode. The radio will restore to work normally only after remote revived. This function is able to select to be or not to be controlled by master ID code, this function is not controlled by RX signalling. (Remote kill code is programmable by PC software)

### Remote Revive

When receiving matched DTMF signalling which is same as pre-programmed remote revive code, the radio will be revived and restore to work normally. This function is able to select to be or not to be controlled by master ID code, this function is not controlled by RX signalling. (Remote revive code is programmable by PC software)

### Emergency Alarm

When receiving matched DTMF signalling which is same as pre-programmed emergency alarm code, the radio will emit emergency alarm. Emergency alarm mode and channel is PC programmable. This function is not controlled by master ID code and RX signalling. (Emergency alarm code is programmable by PC software)

Signalling controlled by master ID: Function will be implemented only when both signalling and mater ID matched.

Signalling no controlled by master ID format: signalling + # + Information Code

Signalling controlled by master ID format: signalling + # + Master ID code + # + Information Code

### DTMF Transmit By Call Key Setting

1. Select DTMF signal, press **[MENU]** + **[1]** + **[8]** + **[MENU]** + **[UP]** (DOWN) select DTMF signal + **[MENU]** save setting.
2. Select signal information code. Press **[MENU]** + **[2]** + **[2]** + **[MENU]** + **[UP]** (DOWN) select decode signal information code group (1–15) + **[MENU]** save the setting. (Can use PC software set DTMF code).
3. Press **[Call]** Key transmit selected DTMF code group at standby.

### 2 TONE And 2 TONE Signal Transmit by Call Key Setting

1. Press **[MENU]** select 18 OPTSIG, press **[MENU]** select 2 TONE function.
2. Press **[MENU]** select 22 S-INFO, press **[MENU]** select pre-code signal group (1–16). (Can use PC software setting 2 TONE).
3. Corresponding function will turn on when receive 2 TONE signal is same as pre-set 2 TONE code.

4. Press **[Call]** to send 2 TONE group code at standby.

## 5 TONE Signal Setting

This radio have 5 TONE coding/decode function. You can use PC software to input signal information code. (enter software signal edit select 5 TONE and setting). Receiver set 5 TONE signal, then after receive same 5 TONE signal (code must 5 bit) receiver turn on the ring function and display the information code. Speech at effective time is available. (ID code can use PC software to setting).

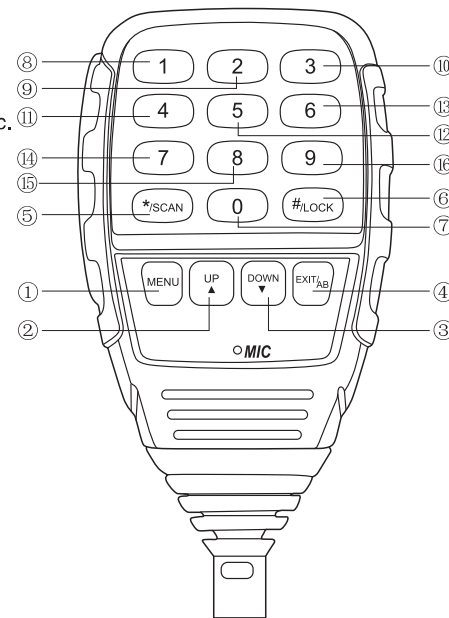
Press **[Call]** Key to transmit 5 TONE.

1. Press **[MENU]** key, select 18 OPTSIG press **[MENU]** select 5 TONE function, press **[MENU]** to confirm setting.
2. Press **[MENU]** , select 22 S-INFO press **[MENU]** key to select pre-code signal group 1-15. (Can use PC software setting 5 TONE information code, each group can transmit 3 group 5 TONE code for optional).

3. Press **[Call]** key transmit pre-set 5 TONE code group at standby.

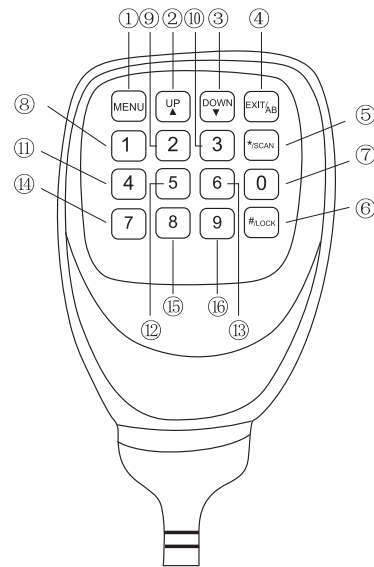
## ■ SPEAKER MICROPHONE DESCRIPTION (optional)

- ① "MENU": Function key
- ② "UP": Tune up channel step
- ③ "DOWN": Tune down channel step
- ④ "EXIT": Exit A/B channel switch, emergency alarm etc.
- ⑤ "\*/SCAN": Offset function, scan, digital "\*\*\*"
- ⑥ "#/LOCK": Keypad lockout function, digital "#"
- ⑦ "0": Number 0 (Long press to shows current supply voltage)
- ⑧ "1": Number 1
- ⑨ "2": Number2
- ⑩ "3": Number3
- ⑪ "4": Number4
- ⑫ "5": Number5
- ⑬ "6": Number6
- ⑭ "7": Number7
- ⑮ "8": Number8
- ⑯ "9": Number9



## SPEAKER MICROPHONE DESCRIPTION (optional)

- ① "MENU": Function key
- ② "UP": Tune up channel step
- ③ "DOWN": Tune down channel step
- ④ "EXIT": Exit A/B channel switch, emergency alarm etc.
- ⑤ "\*"/SCAN": Offset function, scan, digital "\*\*"
- ⑥ "#/LOCK": Keypad lockout function, digital "#"
- ⑦ "0": Number 0 (Long press to shows current supply voltage)
- ⑧ "1": Number 1
- ⑨ "2": Number2
- ⑩ "3": Number3
- ⑪ "4": Number4
- ⑫ "5": Number5
- ⑬ "6": Number6
- ⑭ "7": Number7
- ⑮ "8": Number8
- ⑯ "9": Number9



## Microphone Keypad Operation

1. Hold on microphone **[MENU]** key for seconds can switch select channel mode or frequency mode.
2. Press **[#]** key to switch High/Low transmit output power.
3. Hold on **[#]** key for seconds to Lock/Unlock the keypad.
4. Hold on **[EXIT/AB]** key for seconds to active Alarm mode.
5. Press **[EXIT/AB]** key select present working frequency.
6. Press **[\*]** key to reverse the transmit frequency and receive frequency.
7. Hold on **[\*]** key to start Scan function.
8. Hold on **[0]** key for seconds, to display present power supply voltage

## ■ FUNCTION MENU

| Menu    | Primary Menu Icon                         | Secondary Menu Icon | Secondary Function Description                                  |
|---------|---|---------------------|---|
| 0       | TMR                                       | OFF                 | Disable TMR (multiple standby function)                         |
|         |   | M+A                 | Enable TMR, main frequency and A frequency standby              |
|         |   | M+B                 | Enable TMR, main frequency and B frequency standby              |
|         |   | M+C                 | Enable TMR, main frequency and C frequency standby              |
|         |   | M+D                 | Enable TMR, main frequency and D frequency standby              |
|         |   | M+A+B               | Enable TMR, main frequency A and B frequency standby            |
|         |   | M+A+C               | Enable TMR, main frequency A and C frequency standby            |
|         |   | M+A+D               | Enable TMR, main frequency A and D frequency standby            |
|         |   | M+B+C               | Enable TMR, main frequency B and C frequency standby            |
|         |   | M+B+D               | Enable TMR, main frequency B and D frequency standby            |
|         |   | M+C+D               | Enable TMR, main frequency C and D frequency standby            |
|         |   | M+A+B+C             | Enable TMR, main frequency A B and C frequency standby          |
|         |   | M+A+C+D             | Enable TMR, main frequency A C and D frequency standby          |
|         |   | M+B+C+D             | Enable TMR, main frequency B C and D frequency standby          |
| A+B+C+D | Enable TMR, A B C and D frequency standby |                     |   |
| 1       | STEP                                      | 2.50K               | In frequency mode, press [UP] and [DOWN] to select step figure. |
|         |   | 5.00K               |   |
|         |   | 6.25K               |   |
|         |   | 10.00K              |   |
|         |   | 12.50K              |   |
|         |   | 25.00K              |   |

|    |        |                         |  |
|----|--------|-------------------------|--|
| 2  | SQL    | 0, ..., 9               | Squelch level 0–9 selective                                      |
| 3  | TXP    | HIGH                    | High power output  |
|    |        | LOW                     | Low power output   |
| 4  | SCR    | OFF                     | Disable Scrambler function                                       |
|    |        | ON                      | Enable Scrambler function  |
| 5  | TOT    | 15, 30, ..., 600        | Time out timer, 15–600s selective, step is 15s.                  |
| 6  | APO    | OFF, 30, 60, 90 ... 300 | Auto power off time (no signal, no operation)                    |
| 7  | WN     | WIDE                    | Wide band  |
|    |        | NARR                    | Narrow band  |
| 8  | ABR    | OFF                     | backlight always on  |
|    |        | 1, 2, 3, 4, 5           | Auto backlight off time  |
| 9  | BEEP   | OFF                     | Alert tone off   |
|    |        | ON                      | Alert tone on  |
| 10 | R–DCS  | OFF                     | None DCS tone programmed   |
|    |        | D023N, ..., D754I       | Desired DCS tone programmed                                      |
| 11 | R–CTCS | OFF                     | None CTCSS tone programmed                                       |
|    |        | 67.0HZ, ..., 254.1HZ    | Desired CTCSS tone programmed, and can directly input by keypad. |
| 12 | T–DCS  | OFF                     | None DCS tone programmed   |
|    |        | D023N, ..., D754I       | Desired DCS tone programmed                                      |
| 13 | T–CTCS | OFF                     | None CTCSS tone programmed                                       |
|    |        | 67.0HZ, ..., 254.1HZ    | Desired CTCSS tone programmed, and can directly input by keypad. |
| 14 | DTMFST | OFF                     | Radio will not emit code tone when transmitting DTMF code        |

|    |        |        |  |
|----|--------|--------|--|
|    |        | DT-ST  | Radio emit code tone when manually transmitting DTMF code by key             |
|    |        | ANI-ST | Radio emit code tone when auto transmitting the DTMF code                    |
|    |        | DT+ANI | Radio emit code tone in both conditions                                      |
| 15 | BCL    | OFF    | Radio can transmit at any time   |
|    |        | ON     | Radio cannot transmit when the selected channel is busy                      |
| 16 | SC-ADD | OFF    | Deletes the Channel from the SCAN list                                       |
|    |        | ON     | Adds the Channel to the SCAN list  |
| 17 | SC-REV | TO     | Scan by time   |
|    |        | CO     | Scan by carrier  |
|    |        | SE     | Scan by search   |
| 18 | OPTSIG | OFF    | Disable optional signalling  |
|    |        | DTMF   | DTMF as optional signalling  |
|    |        | 2TONE  | 2 TONE as optional signalling  |
|    |        | 5TONE  | 5 TONE as optional signalling  |
| 19 | SPMUTE | QT     | Speaker unmutes when receiveing matched QT/DQT                               |
|    |        | AND    | Speaker unmutes when receiveing both matched optional signalling and QT/DQT  |
|    |        | OR     | Speaker unmutes when receiveing either matched optional signalling or QT/DQT |
| 20 | PTT-ID | OFF    | Disable PTT-ID transmit  |
|    |        | BOT    | Press PTT to transmit signalling code (set by software)                      |
|    |        | EOT    | Release PTT to transmit signalling code                                      |
|    |        | BOTH   | Press PTT and Release PTT to transmit signalling code                        |

|    |        |               |  |
|----|--------|---------------|--|
| 21 | PTT-LT | 0, 1, ..., 30 | Delay time before PTT-ID transmit                                      |
| 22 | S-INFO | 1, ..., 15    | Signalling code can be programmed by PC software only                  |
| 23 | EMC-TP | ALARM         | Radio emit emergency alarm tone  |
|    |        | ANI           | Radio emit emergency alarm code and ANI code                           |
|    |        | BOTH          | Radio emit emergency alarm tone, alarm code and ANI code               |
| 24 | EMC-CH | 000, ..., 199 | Radio will emit emergency alarm from specified emergency alarm channel |
| 25 | SIG-BP | OFF           | Signalling available not prompt  |
|    |        | ON            | Signalling available prompt  |
| 26 | CHNAME |               | In channel mode to edit the channel name                               |
| 27 | CA-MDF | FREQ          | Frequency mode   |
|    |        | CH            | Channel display mode   |
|    |        | NAME          | Channel name display mode (name set by software)                       |
| 28 | CB-MDF | FREQ          | Frequency mode   |
|    |        | CH            | Channel display mode   |
| 29 | CC-MDF | NAME          | Channel name display mode (name set by software)                       |
|    |        | FREQ          | Frequency mode   |
| 30 | CD-MDF | CH            | Channel display mode   |
|    |        | NAME          | Channel name display mode (name set by software)                       |
|    |        | FREQ          | Frequency mode   |

|    |        |        |                                      |
|----|--------|--------|--------------------------------------|
| 31 | LANGUA | ENG    | English menu                         |
|    |        | CHS    | Chinese menu                         |
| 32 | AUTOLK | OFF    | Disable keypad auto lockout function |
|    |        | ON     | Enable keypad auto lockout function  |
| 33 | MAINFC | BLACK  | Setting main LCD figure color        |
|    |        | WHITE  |                                      |
|    |        | RED    |                                      |
|    |        | BLUE   |                                      |
|    |        | GREEN  |                                      |
|    |        | YELLOW |                                      |
|    |        | INDIGO |                                      |
|    |        | PURPLE |                                      |
| 34 | MAINBC | BLACK  | Setting main LCD back color          |
|    |        | WHITE  |                                      |
|    |        | RED    |                                      |
|    |        | BLUE   |                                      |
|    |        | GREEN  |                                      |
|    |        | YELLOW |                                      |
|    |        | INDIGO |                                      |
|    |        | PURPLE |                                      |
| 35 | MENUFC | BLACK  | Setting Menu figure color            |
|    |        | WHITE  |                                      |
|    |        | RED    |                                      |

|        |        |        |                                |
|--------|--------|--------|--------------------------------|
|        |        | BLUE   |                                |
|        |        | GREEN  |                                |
|        |        | YELLOW |                                |
|        |        | INDIGO |                                |
|        |        | PURPLE |                                |
| 36     | MENUBC | GRAY   | Setting Menu back color        |
|        |        | BLACK  |                                |
|        |        | WHITE  |                                |
|        |        | RED    |                                |
|        |        | BLUE   |                                |
|        |        | GREEN  |                                |
|        |        | YELLOW |                                |
|        |        | INDIGO |                                |
| 37     | STA-FC | PURPLE | Setting top figure front color |
|        |        | GRAY   |                                |
|        |        | BLACK  |                                |
|        |        | WHITE  |                                |
|        |        | RED    |                                |
|        |        | BLUE   |                                |
|        |        | GREEN  |                                |
|        |        | YELLOW |                                |
| INDIGO |        |        |                                |
|        |        | PURPLE |                                |
|        |        | GRAY   |                                |

|    |        |        |   |
|----|--------|--------|---|
| 38 | STA-BC | BLACK  | Setting top figure back color           |
|    |        | WHITE  |   |
|    |        | RED    |   |
|    |        | BLUE   |   |
|    |        | GREEN  |   |
|    |        | YELLOW |   |
|    |        | INDIGO |   |
|    |        | PURPLE |   |
|    |        | GRAY   |   |
| 39 | SIG-FC | BLACK  | Setting bottom signal figure color      |
|    |        | WHITE  |   |
|    |        | RED    |   |
|    |        | BLUE   |   |
|    |        | GREEN  |   |
|    |        | YELLOW |   |
|    |        | INDIGO |   |
|    |        | PURPLE |   |
|    |        | GRAY   |   |
| 40 | SIG-BC | BLACK  | Setting bottom signal figure back color |
|    |        | WHITE  |   |
|    |        | RED    |   |
|    |        | BLUE   |   |
|    |        | GREEN  |   |
|    |        | INDIGO |   |

|    |        |               |  |
|----|--------|---------------|--|
| 41 | RX-FC  | PURPLE        | Set receiving figure color   |
|    |        | GRAY          |  |
|    |        | BLACK         |  |
|    |        | WHITE         |  |
|    |        | RED           |  |
|    |        | BLUE          |  |
|    |        | GREEN         |  |
|    |        | YELLOW        |  |
|    |        | INDIGO        |  |
| 42 | TX-FC  | PURPLE        | Set transmitting figure color  |
|    |        | GRAY          |  |
|    |        | BLACK         |  |
|    |        | WHITE         |  |
|    |        | RED           |  |
|    |        | BLUE          |  |
| 43 | TXDISP | GREEN         | Bottom signal shows output power at transmit   |
|    |        | YELLOW        | Bottom signal shows volume at transmit   |
|    |        | INDIGO        |  |
| 44 | MEM-CH | 000, ..., 199 | Select a channel (000-199) to store desired frequency, the channel (000-199) with "CH" was already programmed with frequency |
| 45 | DEL-CH | 000, ..., 199 | Delete the channel information, if the channel number without "CH" means no programmed                                       |



|    |        |                      |   |
|----|--------|----------------------|---|
| 46 | SFT-D  | OFF                  | Offset is turn off, TX RX frequency is same   |
|    |        | +                    | Plus offset, means TX frequency is higher then RX   |
|    |        | -                    | Minus offset, means TX frequency is lower then RX   |
| 47 | OFFSET |                      | Offset frequency range is 00.000-69.990MHz selective. In VFO mode, the offset between TX and RX |
| 48 | ANI    |                      | ANI code, programmed by PC software only  |
| 49 | ANI-L  | 3, 4, 5              | Length of ANI code  |
| 50 | REP-S  | 1000                 | Transmitting press CALL to send 1000Hz to activate repeater function                            |
|    |        | 1450                 | Transmitting press CALL to send 1450Hz to activate repeater function                            |
|    |        | 1750                 | Transmitting press CALL to send 1750Hz to activate repeater function                            |
|    |        | 2100                 | Transmitting press CALL to send 2100Hz to activate repeater function                            |
| 51 | REP-M  | OFF                  | Disable repeater transponder function   |
|    |        | CARRI                | Repeater transpond when receiving matched carrier   |
|    |        | CTDCS                | Repeater transpond when receiving matched CTCSS/DCS   |
|    |        | TONE                 | Repeater transpond when receiving matched tone  |
|    |        | DTMF                 | Repeater transpond when receiving matched DTMF code   |
| 52 | TMR-MR | OFF, 1, 2, 3, ... 50 | Delay time for main frequency back, at multi standby  |
| 53 | STE    | OFF                  | Disable squelch tail-eliminated function  |
|    |        | ON                   | Enable squelch tail-eliminated function   |

|    |        |                     |  |
|----|--------|---------------------|--|
| 54 | RP-STE | OFF, 1, 2, 3, ...10 | 1-10 indicate squelch tail length, used to eliminate squelch tail noise produced |
| 55 | RPT-DL | OFF, 1, 2, 3, ...10 | 1-10 select delay time to receive repeater tail noise                            |
| 56 | DTMF-G | 0, 1, 2, 3, ... 60  | Set DTMF gain  |
| 57 | RESET  | VFO                 | Reset the menu mode to factory default setting                                   |
|    |        | ALL                 | Reset all memories and other setting to factory default setting                  |

## ■ GENERAL SPECIFICATIONS

### General Specifications

|                       |   |
|-----------------------|---|
| Frequency range       | VHF: 136~174MHz<br>UHF: 400~470MHz                |
| Channel capacity      | 200 channels                                      |
| Channel Spacing       | 25KHz / 20KHz / 12.5KHz                           |
| Channel step          | 2.5KHz / 5KHz / 6.25KHz / 10KHz / 12.5KHz / 25KHz |
| Working Voltage       | 13.8V / 24V DC $\pm$ 15%                          |
| Squelch way           | CARRIER / CTCSS / DCS / 5Tone / 2Tone / DTMF      |
| Frequency stability   | $\pm$ 2.5ppm                                      |
| Operating temperature | -20~+60°C   |
| Dimension             | 123 (W) $\times$ 158 (D) $\times$ 44 (H) mm       |
| Weight                | 660g  |

### Receiver (ETSI EN 300 086 Standardized.Test)

|                              | Wide Band           | Narrow Band           |
|------------------------------|---------------------|-----------------------|
| Sensitivity                  | $\leq$ 0.25 $\mu$ V | $\leq$ 0.35 $\mu$ V   |
| Adjacent Channel Selectivity | $\geq$ 70dB         | $\geq$ 60dB           |
| Intermodulation              | $\geq$ 65dB         | $\geq$ 60dB           |
| Spurious Rejection           | $\geq$ 70dB         | $\geq$ 70dB           |
| Audio response               | +1~-3dB (0.3~3KHz)  | +1~-3dB (0.3~2.55KHz) |
| Hum & Noise                  | $\geq$ 45dB         | $\geq$ 40dB           |
| Audio Distortion             | $\leq$ 5%           |                       |
| Audio output power           | $\geq$ 2W $\pm$ 10% |                       |

### Transmit (ETSI EN 300 086 Standardized.Test)

|                              | Wide Band          | Narrow Band           |
|------------------------------|--------------------|-----------------------|
| Output power                 | 25W/20W(VHF/UHF)   |                       |
| Modulation Mode              | 16K $\Phi$ F3E     | 11K $\Phi$ F3E        |
| Adjacent Channel Selectivity | $\geq$ 70dB        | $\geq$ 60B            |
| Hum & Noise                  | $\geq$ 40dB        | $\geq$ 36dB           |
| Spurious Emission            | $\geq$ 60dB        | $\geq$ 60dB           |
| Audio response               | +1~-3dB (0.3~3KHz) | +1~-3dB (0.3~2.55KHz) |
| Audio distortion             | $\leq$ 5%          |                       |

Attention: Above specifications are subject to change without any notice due to technology enhancement.

*Color screen*  
***MOBILE RADIO***

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***12/24V***